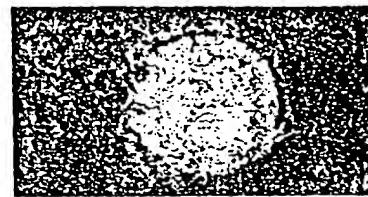


Figure 1

2(A)



12 hpf

2(B)



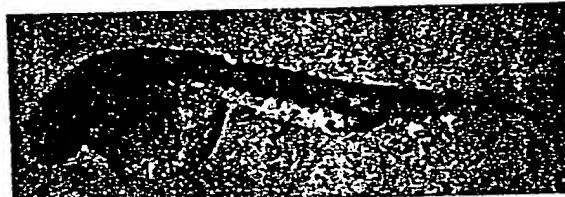
16 hpf

2(C)



24 hpf

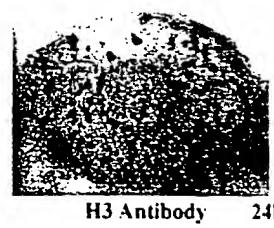
2(D)



48 hpf

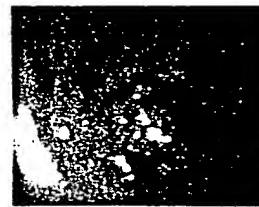
Figure 2 (A)-(D)

3(A)



H3 Antibody 24t

3(B)



opf Acridine Orange

Figure 3 (A)-(B)

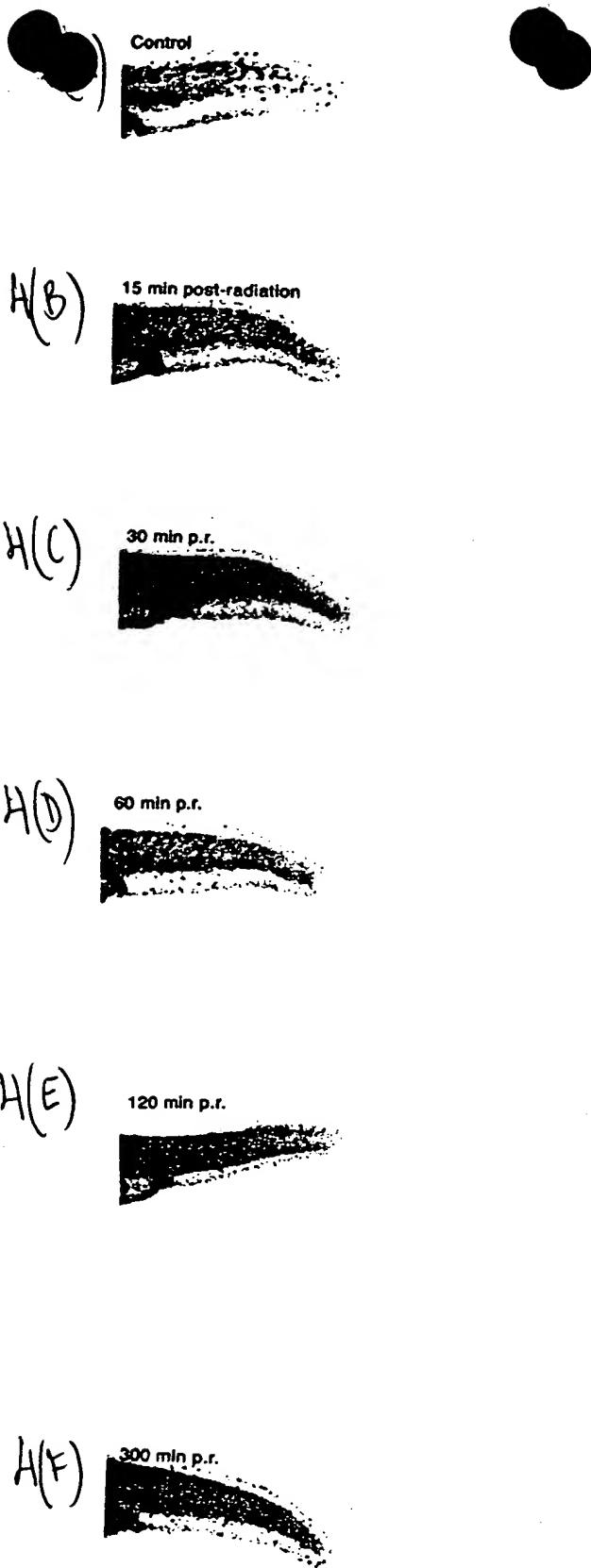


Figure 4 (A)-(F)

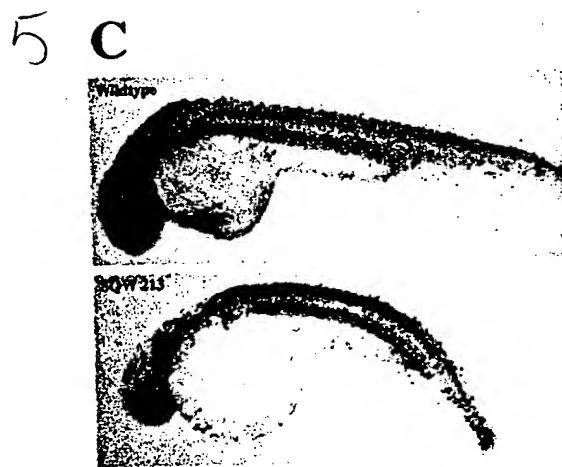
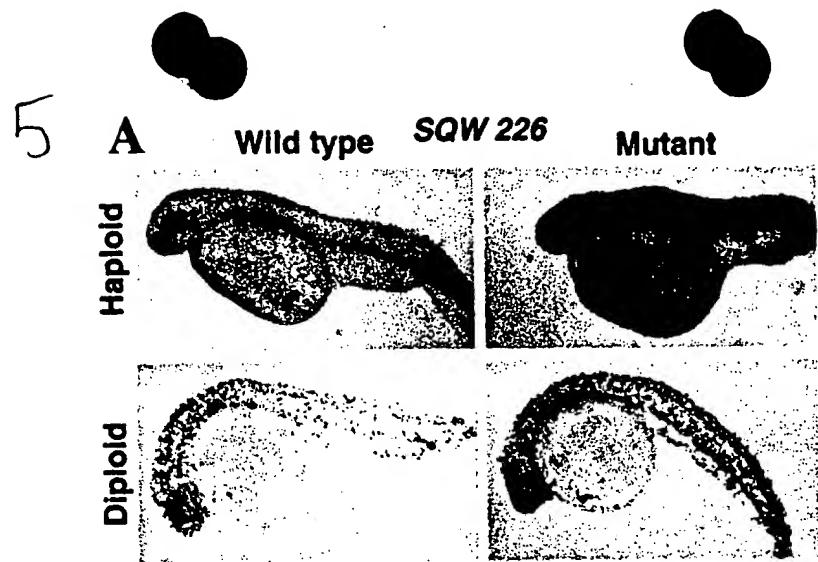


Figure 5 (A)-(C)

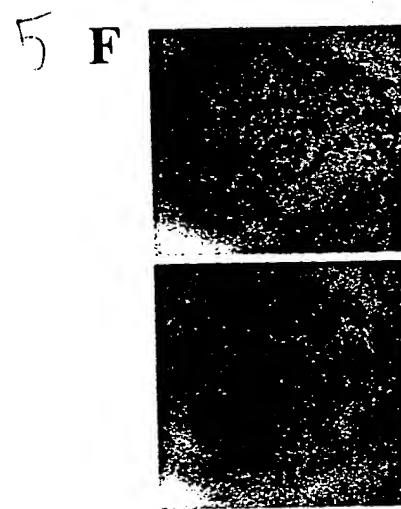
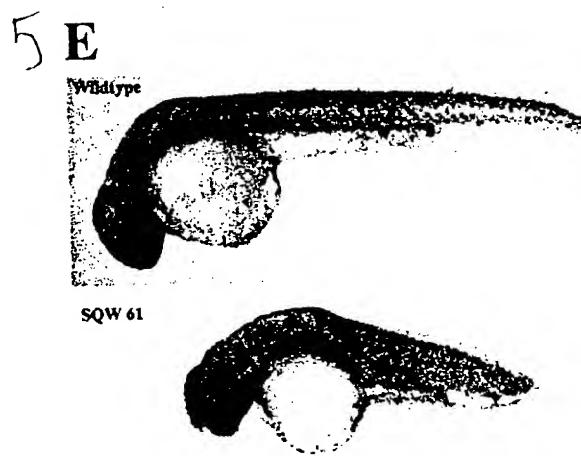
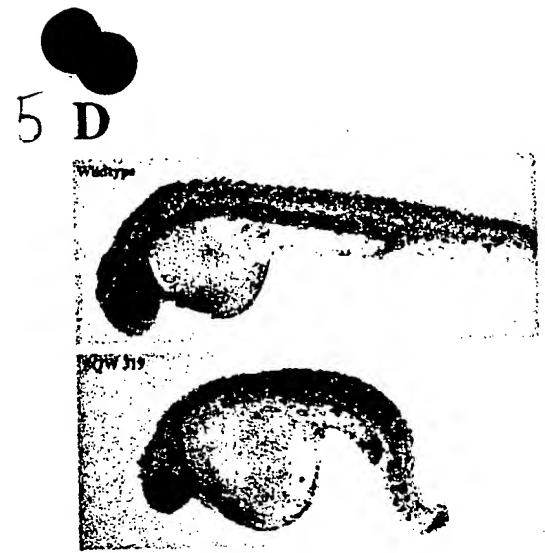
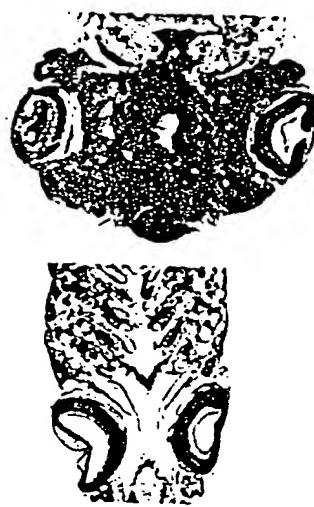


Figure 5 (D)-(F)

A



B

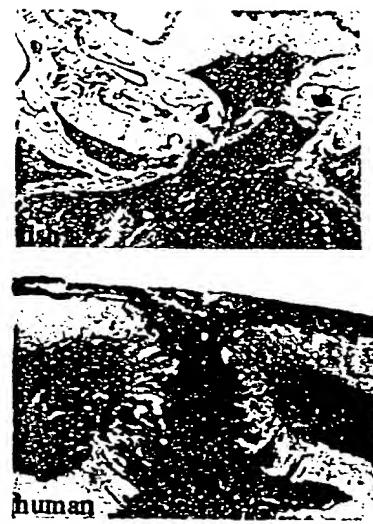
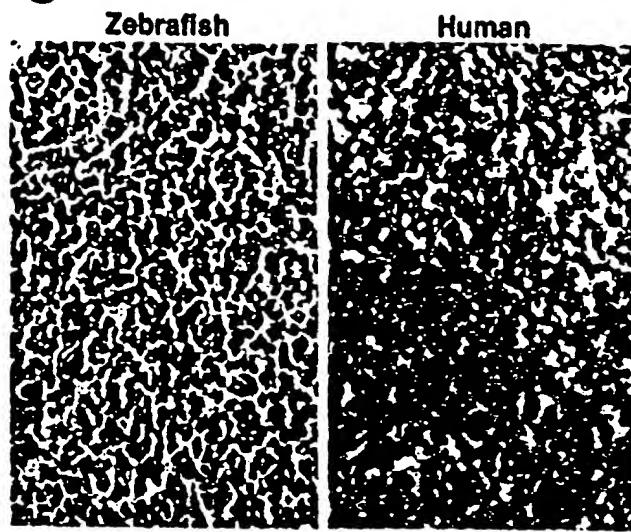


Figure 6 (A)-(B)

6

C



6

D

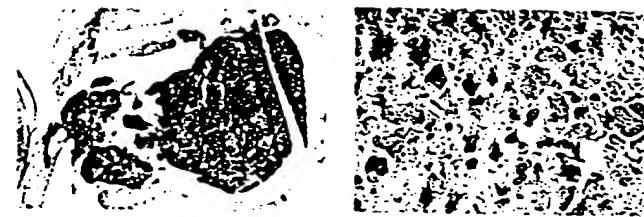


Figure 6 (C)-(D)

6 E

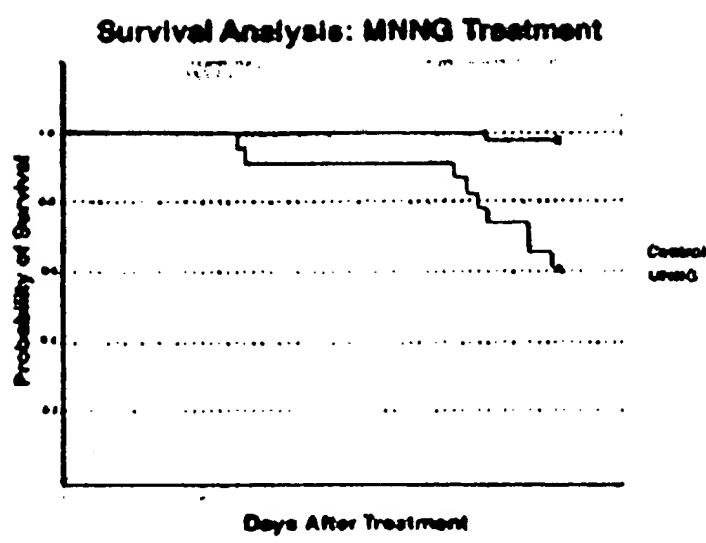
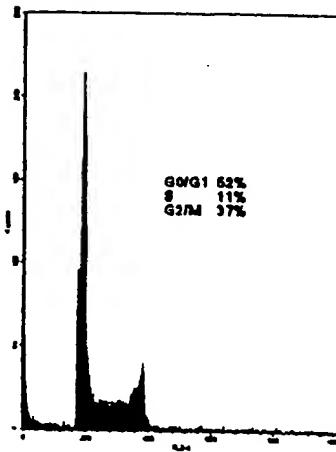
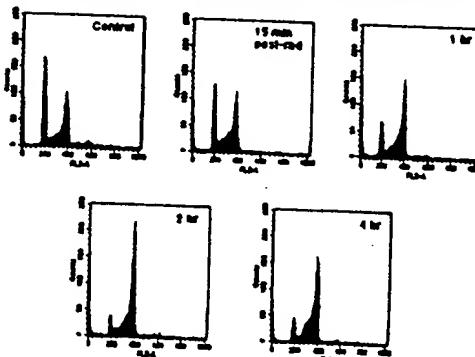


Figure 6 (E)

A**Single-Embryo FACS Analysis****B****FACS Analysis of Embryos after Ionizing Radiation****Figure 7 (A)-(B)**

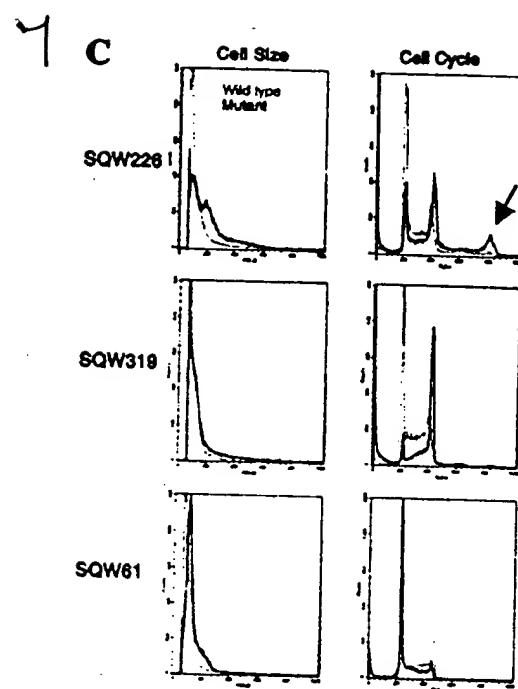
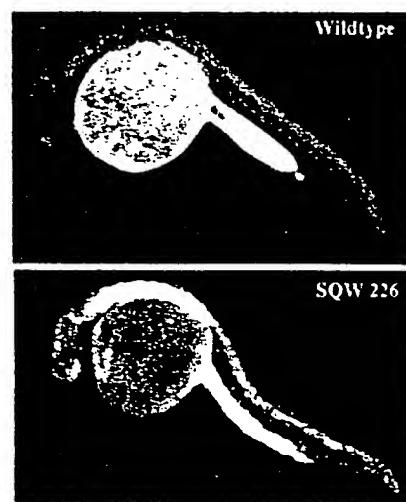


Figure 7 (C)

8 A



8 B

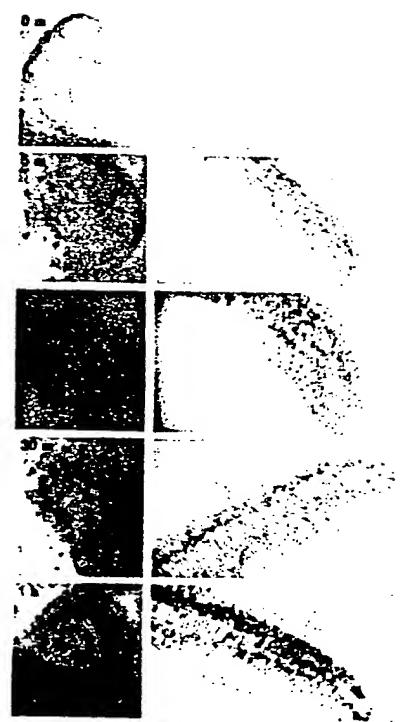


Figure 8 (A)-(B)

S C

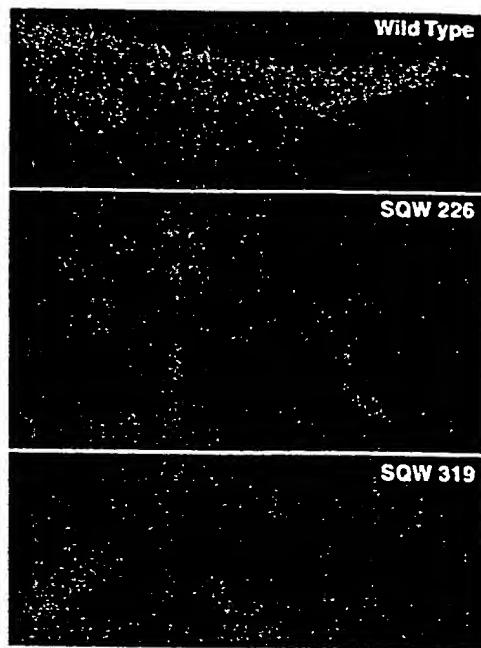


Figure 8 (C)

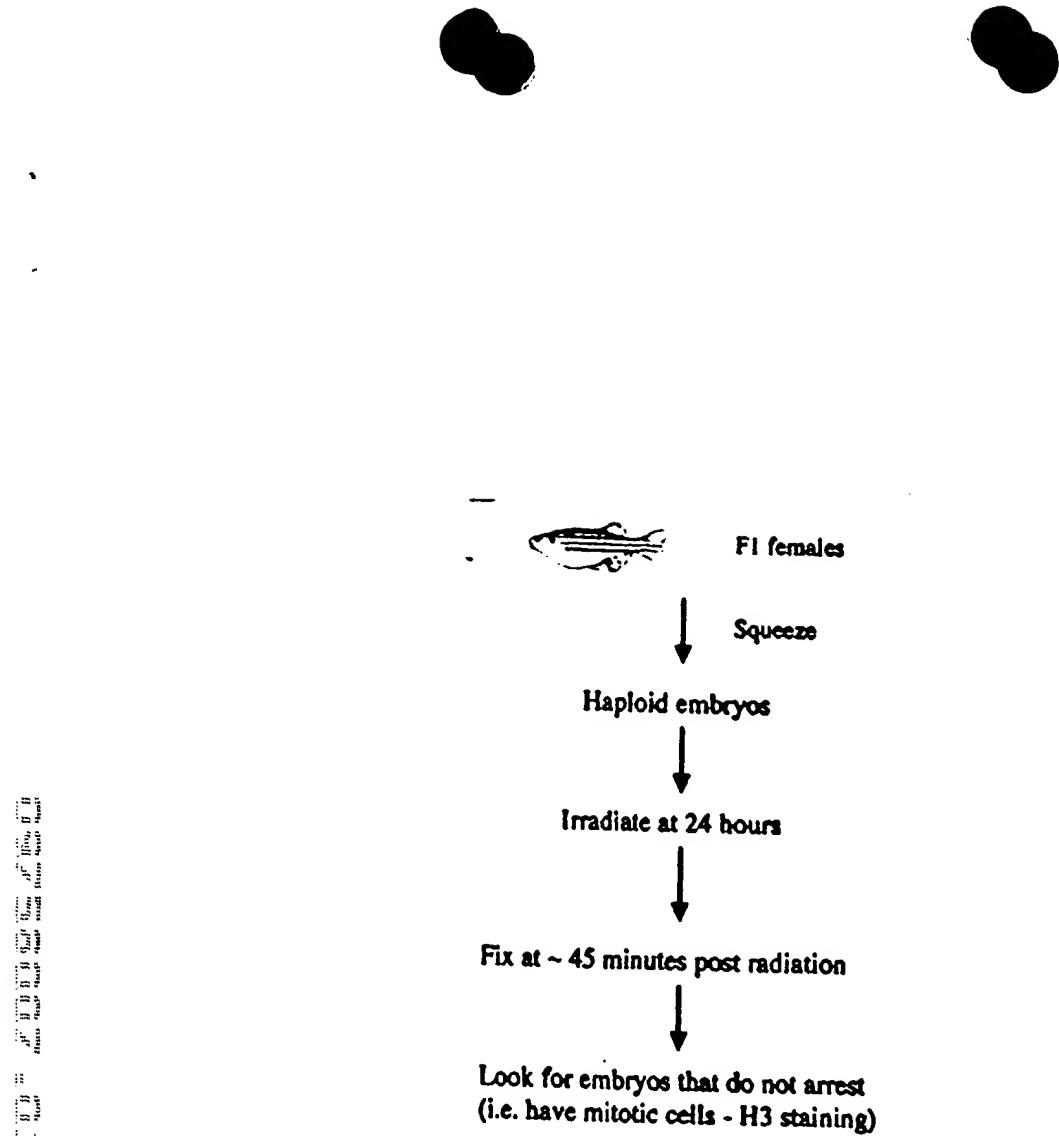


Figure 9

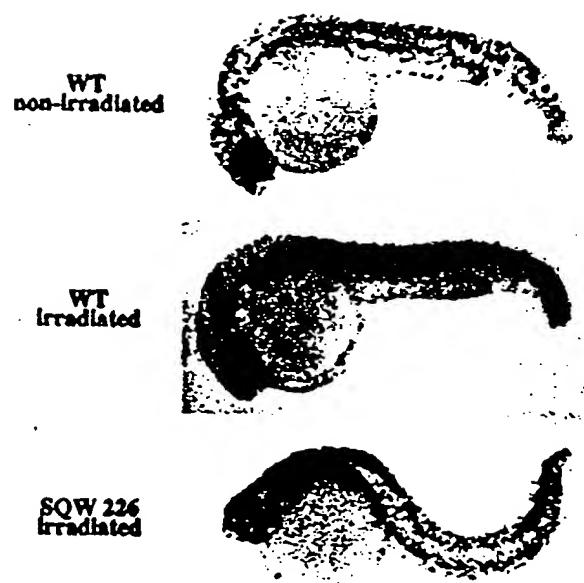


Figure 10

Zfish HPPK--CRSSGTPOXXELXGSLKSRSPCGCN-----AVLSPERHKKDKPENVLSSEEQSTNSICOMAHRDME 68
 Frog MPPKSPRK--QQEPSCGEPRSPDRP-----OFOQDQJPIFLCENKSCMVRCRKAHTTYEK 53
 Human MPPKTPPKTAAIAAAAEEPPAPPPOPPOEEDPEQCSGPEDPLPLVRLFEEETEEQTLALCQKIPCHYRERAYLTKK 90

Zfish EIRSNCK-TNHPYSNQCCAGLFTACMELEGINLTIFQFLRAVGLSTKQFISIVRQDINWCTKQWVNSATPLENKV 147
 Frog MFDSGYMARE-TAXXESLCLLQATASVOCEENTFTFIELLKILRLSVMRCFRUKEEVQDNLQKCNATSKLKKY 132
 Human VSSVDOGVLLGGYEQKKKELNGTGFIAVOLDEMSPLTFELQKIEISVKKFNUKEQT-----STVQMANSPULLK 155

Zfish OVLFAIYQPFYKIGXIFAEPCNA-----KRKELNESSITMFLAKTFLCQECDLVISSFLCVLLEFALKLSPSL 220
 Frog ENMCLLFCXFORIFSLIFEECHNT---RAAVOTAPILXGT,ITFLFLARCKILCQDIELVISISSLCVLQYFLALSPSI 209
 Human OVLFAIYFSKLERTIGLILYLTQPS-SISTEINSALVLYKSYWTFLFLAKCEVLCQECDLVISSFLCVLQYFLALSPSI 234

Zfish IQSPLANSWSSTLSPPATSAEOKSKAPR--PAEMDQOLLETIOLKEGDDSVDEKQWQSTSCAFDSDVLLGLOCLF 298
 Frog ILEPKIKSALNLGPNNTPPSSSRPSONRNTRVSPQSGTTSKVLIEFLCSQNYCPMDERPPVNTSSTVDFLASACISSHECIF 299
 Human ILEPKIKAV--EPHGSPTPPGQNSAEPACKLENITRIEYVLIKHEGNDDEKQWFXNLFPPNSLCLVTSKLEF 312

Zfish PNEALKSYEEELI-KSKD-BARLFISCDETISPKNZEVSKYEVTPRKNLFAEDLAIPVPPOTPEIAMSISQQLRGCVTG 373
 Frog KNEISPSQEEELI-KSKD-BARLFISCDETIUKYDVQOSLOLERTPRKO--ESEVFPVPPOTPVGANTVQQLANTUSSA 367
 Human EVENLSKPREEI-LQSKD-BARLFISCDQXILGTOSIOSFETCPLRKSMLDESVNLPQHIVYTAINTSQQLANTUSSA 392

Zfish SDQFSSMVLVYXICMOPSGETIKAEVEELGEVFIQREQDNVCO-GEQLGRKCFYLCQQLYKHESMKSEEERLSQLV 458
 Frog NOXFPOTDOSIFSCITWXTKTIDISHFCHMFKEGASSCCACAEIYCQYKLGCVQYRVAEATLKTTEERLSPVH 447
 Human SDQFSSMVLVYXICMOPSGETIKAEVEELGEVFIQREQDNVCO-GEQLGRKCFYLCQQLYKHESMKSEEERLSQLV 472

Zfish FSKLILKNAFTSLLACALEWLTWGSLSKNGPGFSSGASOSVESDOLCPHIIISVFCQPAFDPKVWVTSPIKAEPTE 538
 Frog FSKLILKNAFTSLLACALEWLTWGSLSKNGPGFSSGASOSVESDOLCPHIIISVFCQPAFDPKVWVTSPIKAEPTE 518
 Human FSKLILKNAFTSLLACALEWLTWGSLSKNGPGFSSGASOSVESDOLCPHIIISVFCQPAFDPKVWVTSPIKAEPTE 542

Zfish KHOVWHLCECEVNTMSLWPLDOSPLFDLKKOSRE-ECPGECAEPPATNQPLVHHTADLYLSPVPPQR----- 510
 Frog TSMVWHLCECEVNTMSLWPLDOSPLFDLKKQTCRTEPCLVCHPELVSNCQPVCHHTADLYLSPVSSSHQMPVTVP 598
 Human TRS1WHLCECEVNTMSLWPLDOSPLFDLKKQTCRPEOACPQNLQGHTAADYLSPVESPDKKGSTTRV 622

Zfish --P-PVHEAEPPPTP--GTRAPRSISLSLFYKKLTVNATLRIKHLFSNLITSHPELDTIILGTLQCEYELVRCRHLD 685
 Frog TSSVTNGQVSSSQVQ---QKSTISLSLFYKKLTVNATLRIKHLFSNLITSHPELDTIILGTLQCEYELVRCRHLD 674
 Human NST-AKAETCATSAFQTCQPLKTSISLSLFYKKLTVNATLRIKHLFSNLITSHPELDTIILGTLQCEYELVRCRHLD 701

Zfish QLENSAIIAGKMKMIDPLFKTIVTAYHPLPNTOETFLRVLIREQQYDSTIVFYKLRQQLNLILOYSSPPPSFLSF 765
 Frog QIMVCSWQDQKXHCOLPLFKTIVTAYKGTNTNGETFLRVLIREQQYDSTIVFYKLRQQLNLILOYCSAFMPTILSF 754
 Human QIMVCSWQDQKXHCOLPLFKTIVTAYKGTNTNGETFLRVLIREQQYDSTIVFYKLRQQLNLILOYCSAFMPTILSF 781

Zfish IPHIPCSPFX--ISPLAVPCSNWYMSPLISSRV-----SPLVMTPSRILISIGESGSCACFGCKHQVSSSONSL 837
 Frog IPHIPCSPYRFGNSP-XVPC--NLYMSPLIKTPYXTADGLLSPSKHTKTSFISLGETTERSPDCECKHQVLSNSCERPT 831
 Human IPHIPCSPYKFPSSPLRIPCCN-IVISPLHSPYXISEGLPTPTKHTPSRILISIGESGCTSECFCKHQVNSORVLS 860

Zfish RSLOGGSAPKPLKRLRFDSQGQEAAGGSK-SGEGALIQLAEISSSTFSTVWQKXEEESCKDHP. 904 SEQ ID NO: 1
 Frog RSAQDTGTTPKPLKRLRFDSQGQEAAGGSK-HIQGESXFKQLAEITSTFSTVWQKXEEESLESSQCEK 899 SEQ ID NO: 2
 Human RSAEGSNPPPKPLKRLRFDSQGQEAAGGSKHLFGESXFKQLAEITSTFSTVWQKXEEESLESSQCEK 928 SEQ ID NO: 3

Figure 11

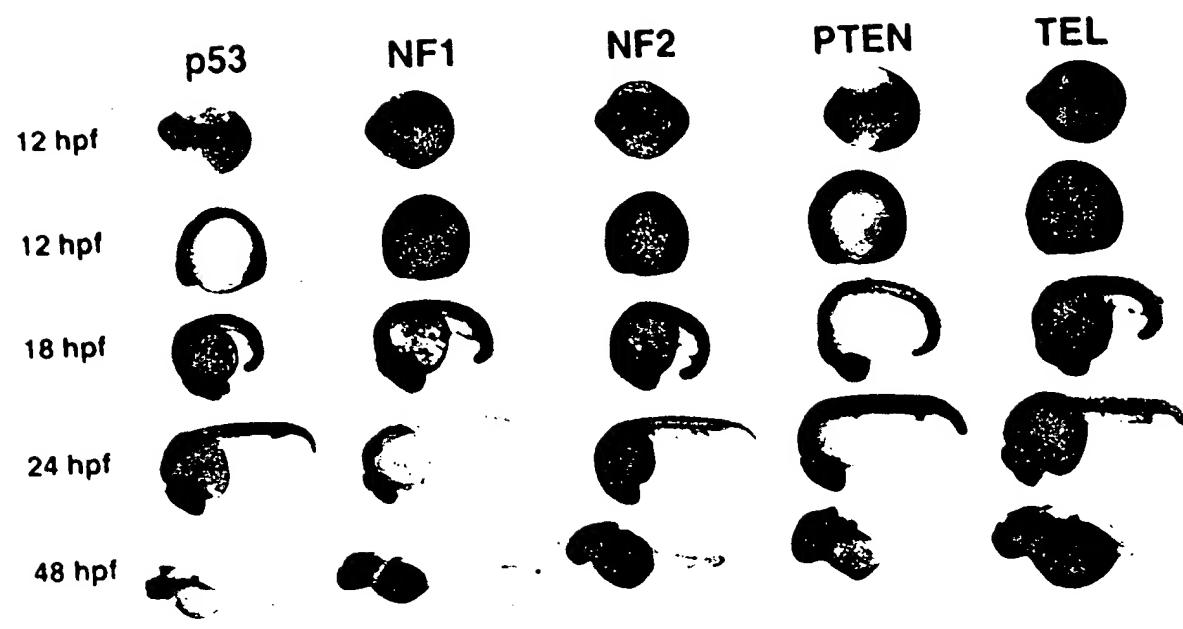


Figure 12

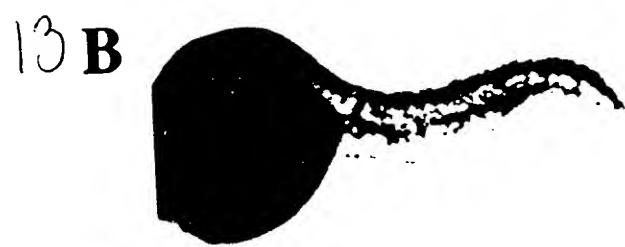


Figure 13 (A)-(C)

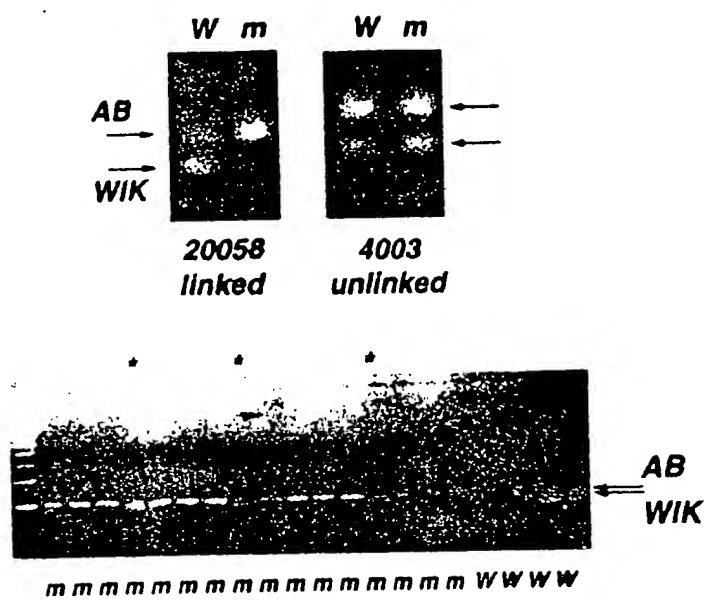


Figure 14

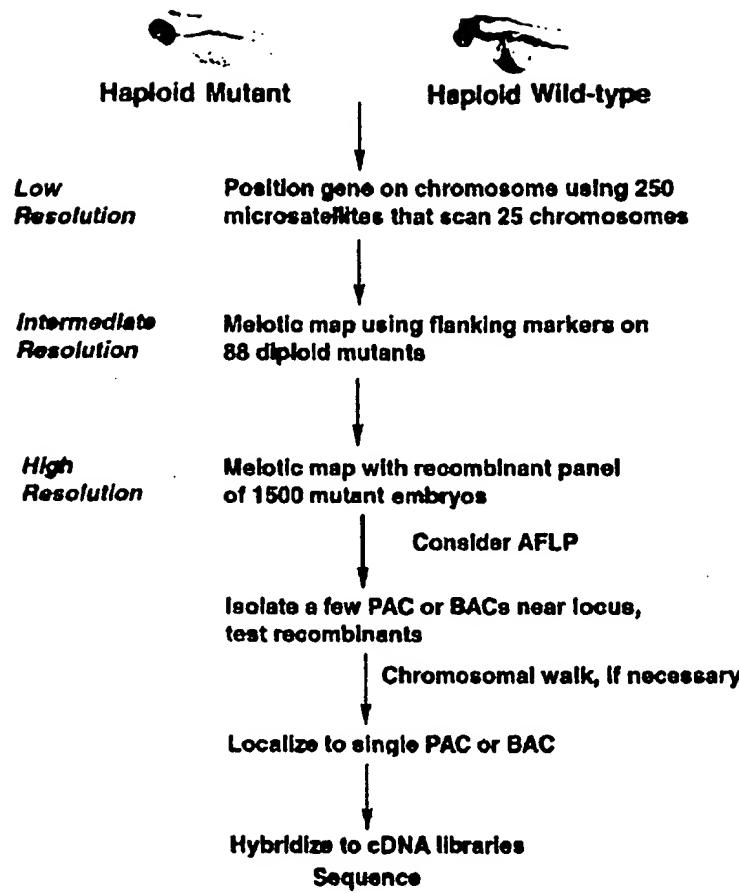
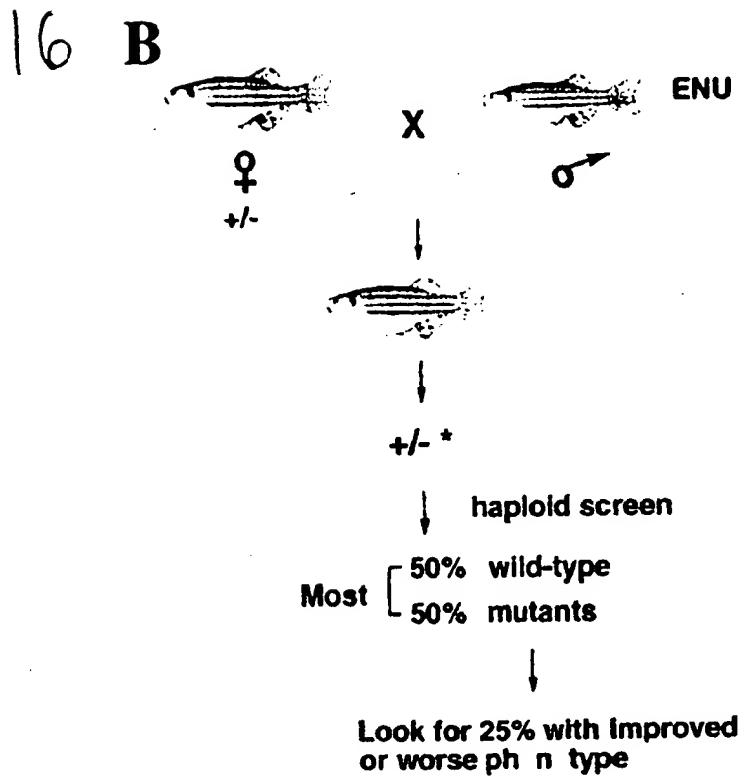
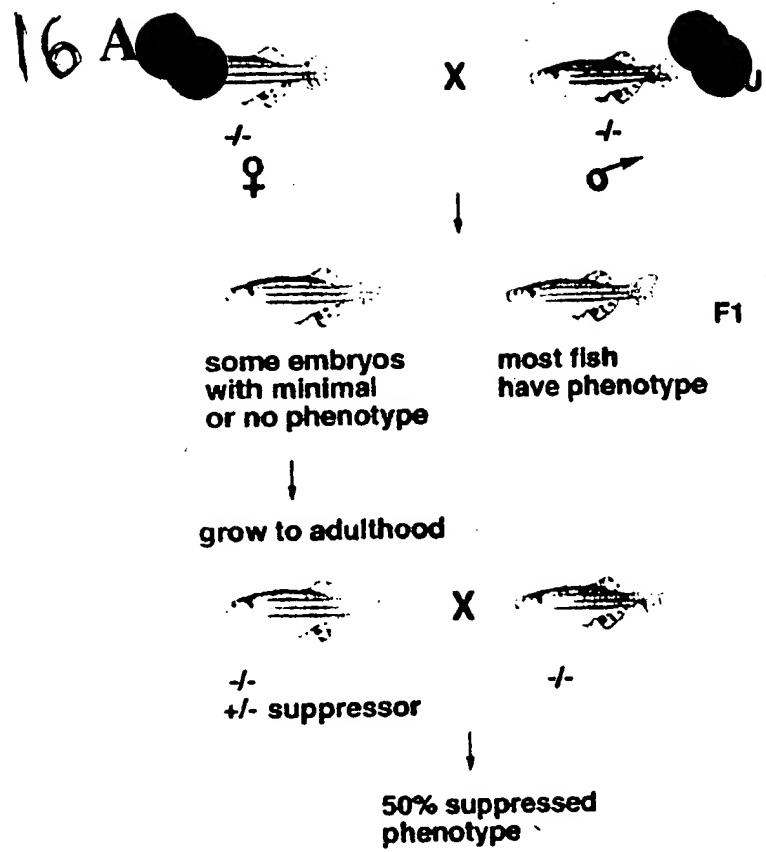
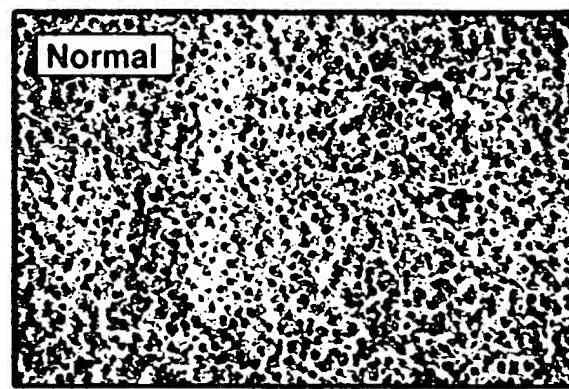


Figure 15

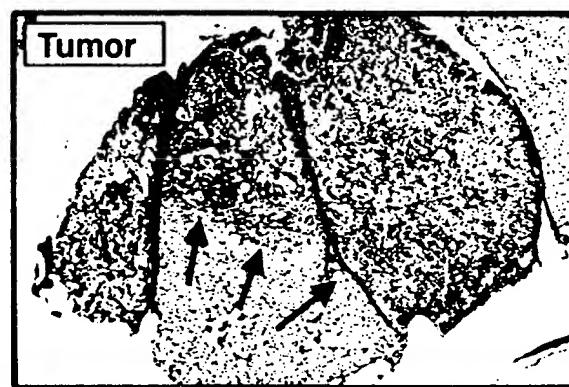


Figures 16 (A)-(B)

17 A



17 B



17 C

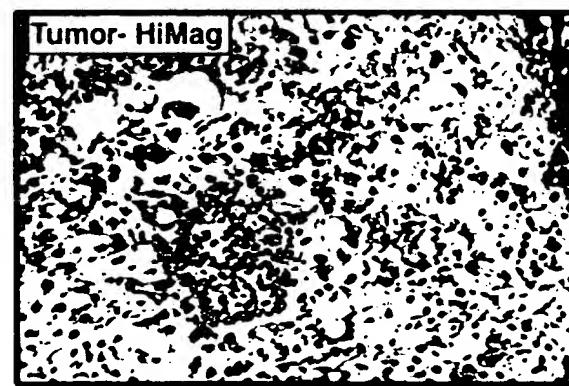
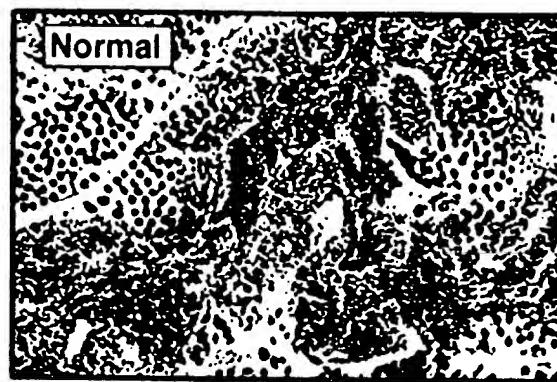
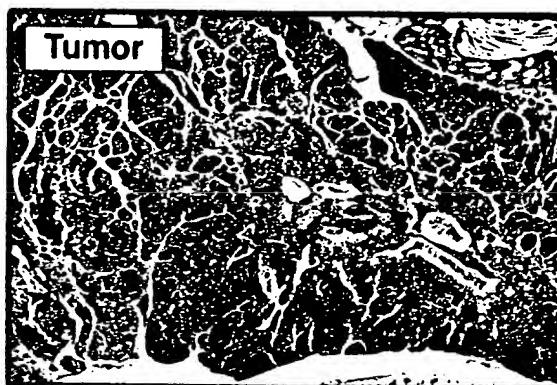


Figure 17 (A)-(C)

18 A



18 B

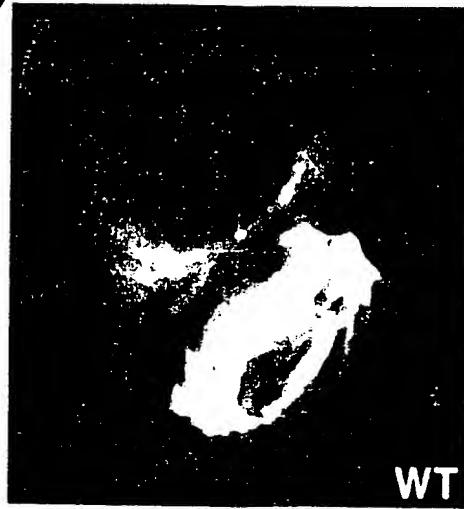


18 C



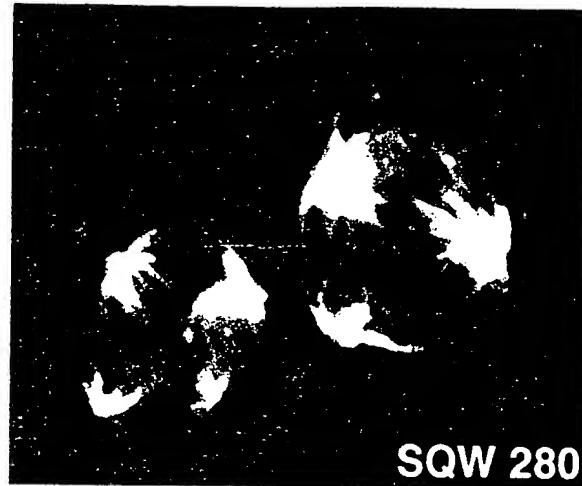
Figure 18 (A)-(C)

19 A



WT

19 B



SQW 280

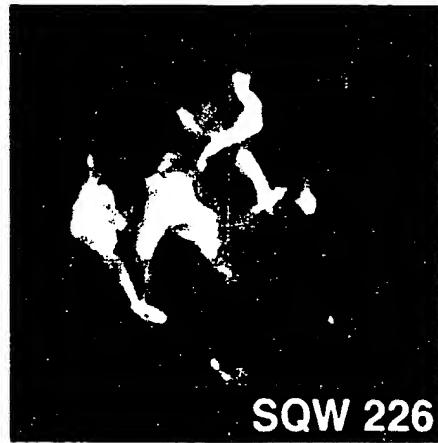
19 C



SQW 280

Figure 19 (A)-(C)

19 D



SQW 226

19 E



SQW 226

Figure 19 (D)-(E)

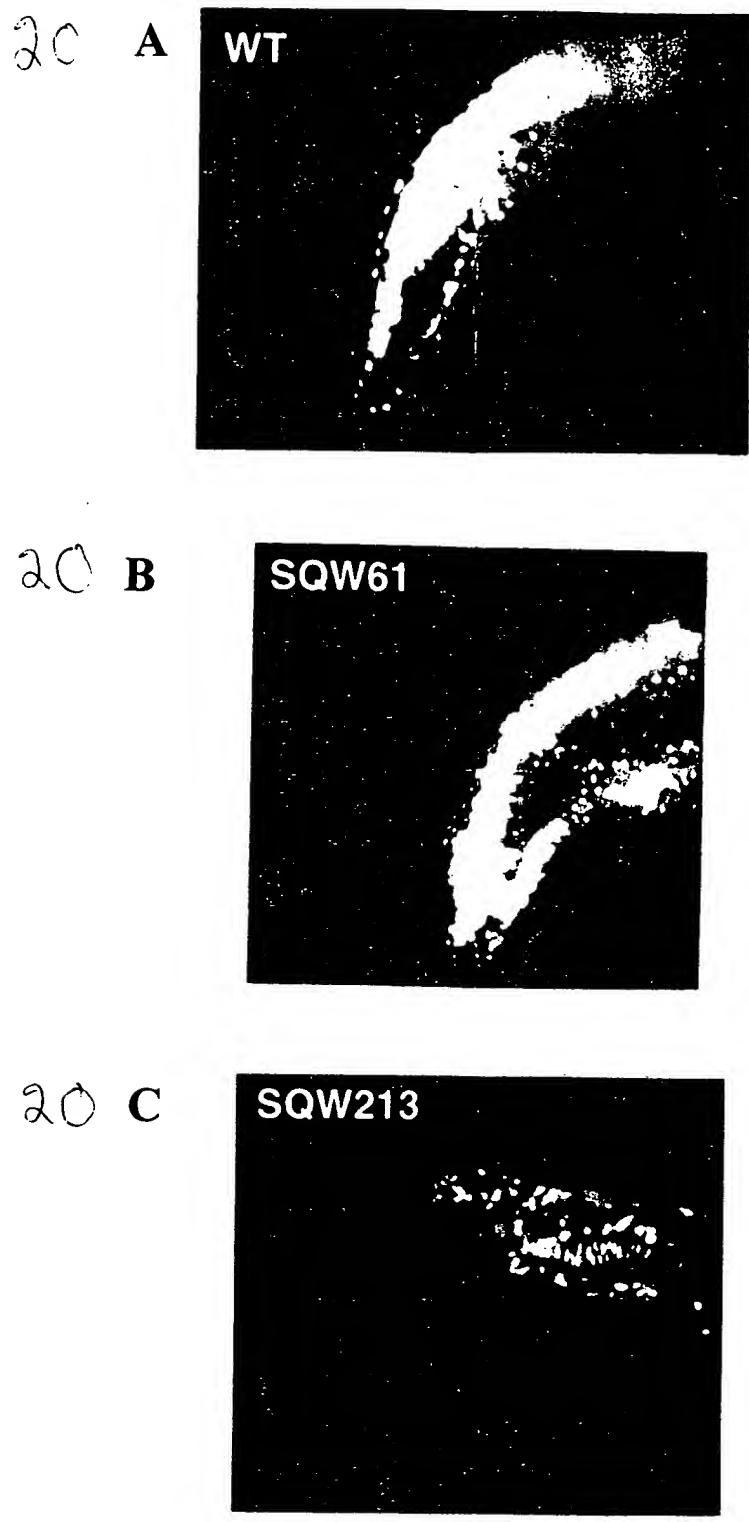


Figure 20 (A)-(C)

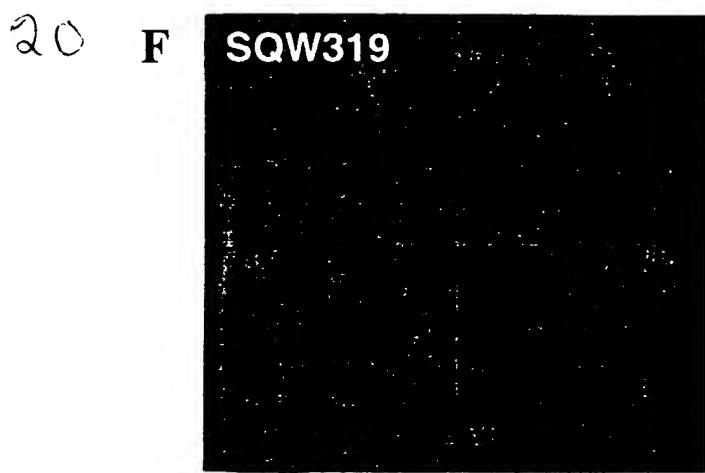
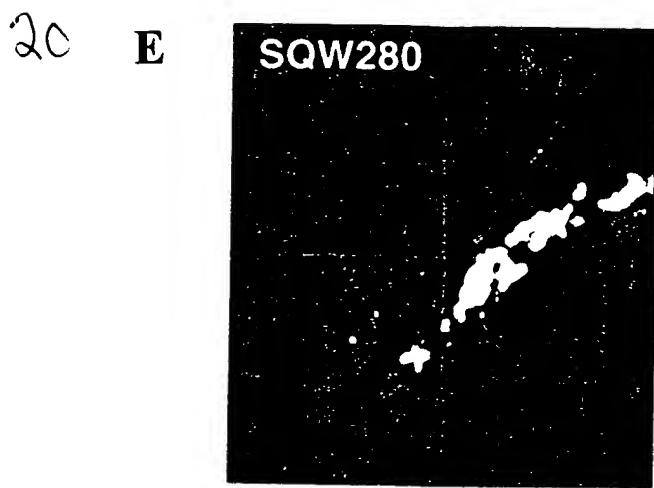
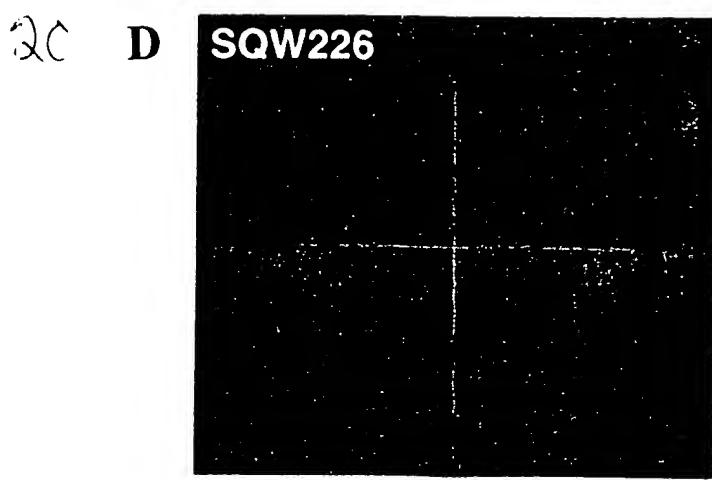


Figure 20 (D)-(F)

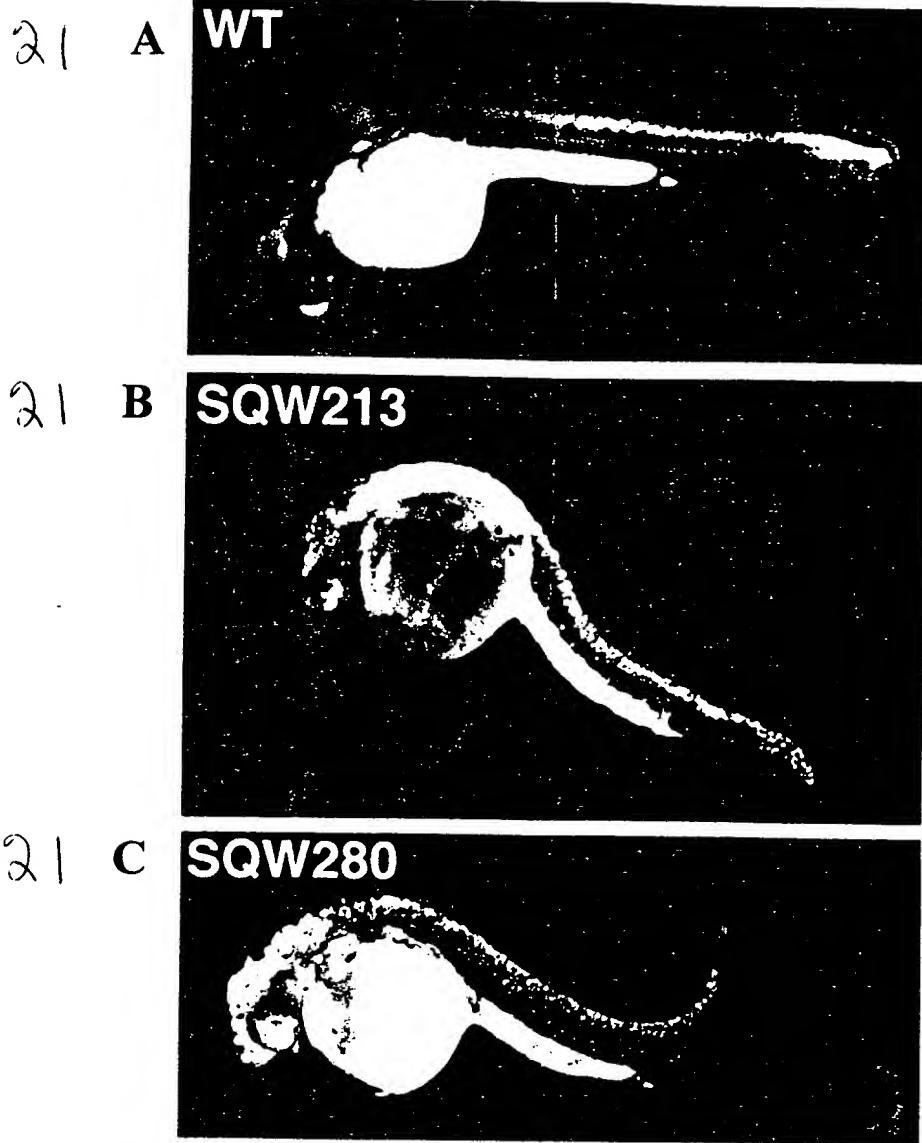
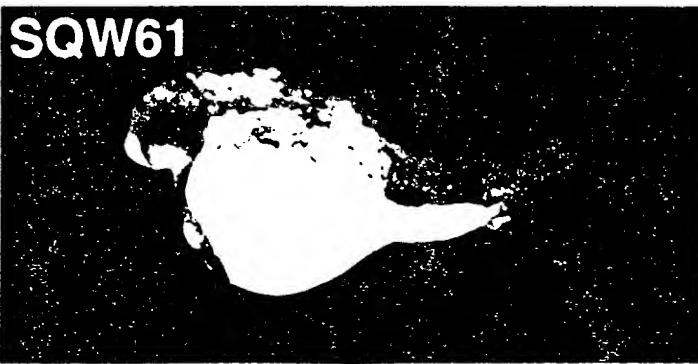


Figure 21 (A)-(C)

21

D



21

E



21

F

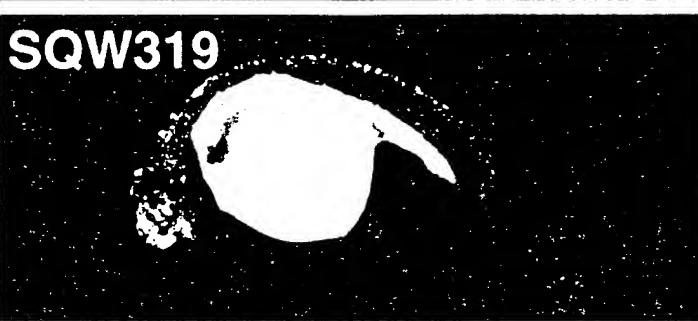


Figure 21 (D)-(F)